

# THE B.C.S. WARREN COLLECTION AND ITS TYPE MATERIAL

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## Introduction

The entire collection of butterflies formed by the late B. C. S. Warren (E. Warren, 1979; de Worms, 1979; Chalmers-Hunt, 1979) has now passed to the British Museum (Natural History), London, in accordance with an agreement drawn up between Mr. Warren and the Trustees of the Museum on 20th May, 1935. The purpose of this note is to give a brief account of the Warren Collection and list the type-material that is included.

## The Warren Collection

The collection (register no. B. M. 1979-101) contained a total of nearly 21000 pinned adults housed in some 190 double-sided insect store boxes, and just over 2000 microscope slide preparations. The material is mostly from the Western Palaearctic, and includes good representation of many of the Papilionoid species (Papilionidae, 450 specimens; Pieridae, 2000; Lycaenidae, 4500; Nymphalidae, less Satyrinae, 3400; Satyrinae, less *Erebia*, 2550; and *Erebia*, 6200). The Hesperidae almost all belong to the Pyrginae (1800 specimens). Not surprisingly, the collection is richest in those genera which Warren made the subject of major studies: *Pyrgus*, *Erebia*, *Boloria*, and *Pieris* (*Artogeia*); in these groups there is significant eastern Palaearctic representation and some Nearctic material.

The largest proportion of the specimens were collected by Warren, Mrs. Warren, or his daughter Elizabeth, from the British Isles, Switzerland, Germany, southern France and Corsica. The second largest source of material is the western Palaearctic collection of R. Temperley. Other material was collected or obtained by dozens of 20th century Lepidopterists, including E. B. Ashby, A. Avinoff, O. Bang-Haas, M. Bartel, G. T. Bethune-Baker, A. Biener, S. R. Bowden, G. S. Brooks, I. Buresch, T. A. Chapman, B. H. Cooke, F. Dannehl, A. J. Dennis, H. J. Elwes, B. Embry, W. Forbes, T. Fukai, A. E. Gibbs, F. T. Gilliat, P. P. Graves, J. Haase, A. F. Hemming, G. Hesselbarth, L. G. Higgins, C. Höfer, O. Holik, A. Jakobson, A. H. Jones, F. König, J. A. Kusche, A. Lauck, G. Leonhard, W. & M. Manley, L. Müller, H. E. Page, C. F. dos Passos, O. Querci, J. L. Reverdin, A. Rudkowski, L. Sheljuzhko, T. Shirôzu, A. Simmons, J. Soffner, A. Stecker, I. Sugitani, P. Haig Thomas, F. Wagner, N. A. Weber, T. Weidinger, F. B. & A. E. Welch, G. Wheeler, C. G. M. de Worms and C. Wyatt.

The collection of 2000 slides, mostly genitalic and androconial preparations, is related to the pinned material by a system of unique serial numbers, running in a notional series

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from 1 to 2850. The 800 or so 'gaps' in the numbers are scattered throughout; many, if not all these gaps relate to preparations made by Warren from material sent to him on loan (certainly including much BMNH material), but as there is no slide register (or any other form of catalogue) associated with the collection it is not possible to be sure in every case. The Warren slides have been allocated a place in the BMNH Rhopalocera Slide Collection, from numbers 14001 to 16850; in all case the Warren number can be related to the BMNH number merely by the addition of 14000 (i.e. Warren slide no. 114 is BMNH Rhop. Slide 14114; Warren no. 2147 is BMNH 16147, etc. etc).

### Warren's type-material

The type-material is mostly of taxa described by Warren, but a few names erected by other authors are represented by (mostly) syntypes or paratypes. Warren's collection was in outstanding condition, largely consisting of perfect specimens well labelled and documented. The only significant damage was the rusting of the pins into some of the boxes, such that the points have decayed in a number of cases. The only other shortcoming was the labelling of types, insofar as the great majority did not carry the name of the taxon concerned. In all cases we have rectified this by adding a determination label giving the precise original status and combination. The type-specimens have all been added to the BMNH Rhopalocera Type Collection; the rest of the collection, having been transferred to standard glazed drawers, will eventually be incorporated into the National Collection (the Parnasiinae having already been dealt with).

In the detailed list of type-material that is appended, each taxon is given in alphabetical order, followed by author, date, reference, the precise original status and combination (in parentheses), country of origin, and details of the type specimens. Bold italics indicate taxa we consider to have been available as names of the species group from the date of their original description; names listed in bold roman are considered to have been infrasubspecific at the time of their original description, or are invalid names. However, some of these judgements are subjective, as Warren employed a complex polynominal nomenclature, not always consistently. Throughout our list quadrinominals are treated as unavailable, but in many cases these taxa were evidently proposed for geographic forms or populations; some of these, no doubt, have subsequently been treated as available, both by Warren, and other workers.

The evaluation of Warren's type-material with respect to the status of individual specimens has caused some difficulty. Although most series of his own taxa include a labelled "holotype", often an "allotype" and "paratypes", in a

majority of cases no indication of a selected holotype or otherwise unique type is given in the original description; these type-series must be regarded as syntypic. For example, the description of *Erebia medusa dolomitica* Warren (1936: 192) gives no indication of the type status of any specimens, or the numbers involved; all that can be inferred is that the taxon is based on two or more males and two or more females from 'Prossliner Hut' and 'Karer Pass'. The Warren Collection included 12 ♂ and 6 ♀ of this subspecies, one male labelled "holotype", one female as "allotype", and the remainder as 'paratypes'. Despite being clearly labelled, we have rigidly adhered to the principles put forward by Vane-Wright (1975: 26), and treated all such specimens as syntypes, as there is no indication of type status in the original description. However, future revisers should fix the "holotypes" so-labelled as lectotypes, whenever possible. A further complication arises in the case of taxa which Warren himself considered to be synonymous, from which it appears he removed all type labels. For example, consider *Erebia euryale boehmerwaldensis* Warren (1930: 147) which Warren (1936: 58) later considered to be a synonym of *Erebia euryale euryale* f. *isarica* Heyne, 1895. Warren apparently removed the type labels from this series on realising that it was a synonym. The cases of *Boloria pales pyrenesmiscens* and *Erebia gavarniensis* are similar.

Finally, it may be noted that in a few cases Warren subsequently published "Holotype" fixations for certain taxa (e.g. *Erebia disa festiva* Warren; *Erebia lefebvrei rowlandi* Warren); these are treated, for the sake of consistency, as lectotype designations, and have been so indicated. Each example must, in fact, be treated individually, as Warren, along with most taxonomists, was not entirely consistent — we may only hope that our list is as error free as was most of B. C. S. Warren's work (of which a bibliography is given by Warren (1978) himself — note that the paper listed under 1913 in the reference given here is omitted from that bibliography).

In the list the following contractions are used: Ht, holotype; Pt/Pts, paratype/s; Lt, Lectotype; Plt/s, paralectotype/s; St/s, syntype/s; des., designated by; Prep./s, slide preparation/s.

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(To be continued)